

ANNEXURE A							
LANDFILL SITE 2016							
No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master Rate	Multiplication Factor	Weighting Factor	Amount
1	Dismanteling of prosessing plant & related structures (incl. Overland conveyers & powerlines)	cubic m	0.000	14.00	1.00	1.00	-
2A	Demolition steel buildings & structures	sq,m	36.000	191.00	1.00	1.00	6,876.00
2B	Demolition reinforced cincrete buildings & structures	sq,m	0.000	282.00	1.00	1.00	-
3	Rehabilitation of access roads	sq,m	6000.000	34.00	1.00	1.00	204,000.00
4A	Demolishing & rehab electric railway lines	m	0.000	332.00	1.00	1.00	-
4B	Demolishing & rehab non electric railway lines	m	0.000	182.00	1.00	1.00	-
5	Demolished houses & Admin facilities	sq,m	18.000	283.00	1.00	1.00	5,094.00
6	Opencast rehab & final voids	ha	39.100	200,416.00	1.00	1.00	7,836,265.60
7	Seeling of shafts.adits & inclines	cubic m	0.000	103.00	1.00	1.00	-
8A	Rehab of overburden & spoils	ha	6.271	133,610.00	1.00	1.00	837,868.31
8B	Rehab processing waste deposits & evaporation ponds (Basic salt producing waste)	ha	0.000	166,409.00	1.00	1.00	-
8C	Rehab processing waste dep.& evaporation ponds (acidic, metal-rich waste)	ha	0.000	483,330.00	1.00	1.00	-
9	Rehab. Subsided areas	ha	6.271	111,878.00	1.00	1.00	701,586.94
10	General surface rehab.	ha	39.100	105,843.00	1.00	1.00	4,138,461.30
11	River diversions	ha	0.000	105,843.00	1.00	1.00	-
12	Fencing	m	3151.000	121.00	1.00	1.00	381,271.00
13	Water nabagement	ha	6.271	40,244.00	1.00	1.00	252,370.12
14	2-3 Years maintenance & aftercare	Sum	2.000	14,086.00	1.00	1.00	28,172.00
SUB TOTAL 1							14,391,965.27
(SUM OF ITEMS 1 - 14 ABOVE)							
15	Preliminary & General	6%	IF SUBTOTAL 1 > 100000000		Weighting factor 2		1,727,035.83
		12%	IF SUBTOTAL 1 < 100000000		1.00		
16	Contingency	10%	Of sub total 1				1,439,196.53
SUB TOTAL 1							17,558,197.63

Amount of Years Passed		9	8	7	6	5	4	3	2	1
YEAR		2013	2014	2015	2016	2017	2018	2019	2020	2021
	SUB TOTAL 1 B/F	14,583,558.02	15,514,423.43	16,504,705.77	17,558,197.63	18,611,689.49	19,728,390.86	20,912,094.31	22,166,819.97	23,496,829.17
17	Survey (Land Surveyor) "ANNEXURE B"	15,445.95	16,431.86	17,480.70	18,596.49	19,712.28	20,895.02	22,148.72	23,477.64	24,886.30
18	Specialist study (EIA) "ANNEXURE C"	255,473.79	271,780.63	289,128.33	307,583.33	326,038.33	345,600.63	366,336.67	388,316.87	411,615.88
19	Specialist studies (soil remediation) (ECSA RATES) "ANNEXURE D"	32,745.41	34,835.54	37,059.09	39,424.56	41,790.04	44,297.44	46,955.28	49,772.60	52,758.96
20	Travel	8,186.35	8,708.89	9,264.77	9,856.14	10,447.51	11,074.36	11,738.82	12,443.15	13,189.74
21	Other Disbursments (Unknown Disbursments) (10%) (REF. ANNEXURE C)	25,547.38	27,178.06	28,912.83	30,758.33	32,603.83	34,560.06	36,633.67	38,831.69	41,161.59
22	Fees Normal (Valuer) "ANNEXURE E"	12,279.53	13,063.33	13,897.16	14,784.21	15,671.26	16,611.54	17,608.23	18,664.73	19,784.61
23	Fees Additional (Geohidrology) "ANNEXURE F"	356,569.71	379,329.48	403,542.00	429,300.00	455,058.00	482,361.48	511,303.17	541,981.36	574,500.24
24	GRAND TOTAL	15,289,806.14	16,265,751.22	17,303,990.66	18,408,500.70	19,513,010.74	20,683,791.38	21,924,818.87	23,240,308.00	24,634,726.48
		9	8	7	6	5	4	3	2	1
	NPV	12,648,267.29	13,747,401.71	14,942,050.92	16,240,515.15	17,651,815.91	19,185,758.72	20,853,001.15	22,665,126.95	24,634,726.48
	MOVEMENT INTEREST / CHANGE IN ESTIMATE	0.00	1,099,134.43	1,194,649.21	1,298,464.23	1,411,300.77	1,533,942.80	1,667,242.43	1,812,125.80	1,969,599.53
	NPV PREVIOUS YEAR + MOVEMENT INTEREST	12,648,267.29	13,747,401.71	14,942,050.92	16,240,515.15	17,651,815.91	19,185,758.72	20,853,001.15	22,665,126.95	24,634,726.48

6 YEARS REMAINING SITE LIFE

MADIBENG LOCAL MUNICIPALITY

FINANCIAL YEAREND:	30 JUNE 2016
COMPONENT:	Provision for rehabilitation of landfill sites
SCHEDULE:	Discounting rate

This working paper attempts to set forth the correct process to determine the discounted rate as prescribe by GRAP 19 and FAQ

GRAP 19 states the following:

Measurement

- .43 The amount recognized as a provision shall be the best estimate of the expenditure required to settle the present obligation at the reporting date.
- .44 The best estimate of the expenditure required to settle the present obligation is the amount that an entity would rationally pay to settle the obligation at the reporting date or to transfer it to a third party at that time. It will often be impossible or prohibitively expensive to settle or transfer an obligation at the reporting date. However, the estimate of the amount that an entity would rationally pay to settle or transfer the obligation gives the best estimate of the expenditure required to settle the present obligation at the reporting date.
- .45 The estimates of outcome and financial effect are determined by the judgement of the management of the entity, supplemented by experience of similar transactions and, in some cases, reports from independent experts. The evidence considered includes any additional evidence provided by events after the reporting date.
- .46 Uncertainties surrounding the amount to be recognized as a provision are dealt with by various means according to the circumstances. Where the provision being measured involves a large population of items, the obligation is estimated by weighting all possible outcomes by their associated probabilities. The name for this statistical method of estimation is "expected value". The provision will therefore be different depending on whether the probability of a loss of a given amount is, for example, 60% or 90%. Where there is a continuous range of possible outcomes, and each point in that range is as likely as any other, the mid-point of the range is used.
- .47 Where a single obligation is being measured, the individual most likely outcome may be the best estimate of the liability. However, even in such a case, the entity considers other possible outcomes. Where other possible outcomes are either mostly higher or mostly lower than the most likely outcome, the best estimate will be a higher or lower amount. For example, if government has to rectify a serious fault in a defence vessel that it has constructed for another government, the individual most likely outcome may be for the repair to succeed at the first attempt at a cost of R100 000, but a provision for a larger amount is made if there is a significant chance that further attempts will be necessary.
- .48 The provision is measured before tax or tax equivalents (where applicable). Guidance on dealing with the tax consequences of a provision, and changes in it, is found in the International Accounting Standard on Income Taxes.

Risks and uncertainties

- .49 The risks and uncertainties that inevitably surround many events and circumstances shall be taken into account in reaching the best estimate of a provision.
- .50 Risk describes variability of outcome. A risk adjustment may increase the amount at which a liability is measured. Caution is needed in making judgements under conditions of uncertainty, so that revenue or assets are not overstated and expenses or liabilities are not understated. However, uncertainty does not justify the creation of excessive provisions or a deliberate overstatement of liabilities. For example, if the projected costs of a particularly adverse outcome are estimated on a prudent basis, that outcome is not then deliberately treated as more probable than is realistically the case. Care is needed to avoid duplicating adjustments for risk and uncertainty with consequent overstatement of a provision.

Present value

- .52 Where the effect of the time value of money is material, the amount of a provision shall be the present value of the expenditures expected to be required to settle the obligation.
- .53 Because of the time value of money, provisions relating to cash outflows that arise soon after the reporting date are more onerous than those where cash outflows of the same amount arise later. Provisions are therefore discounted, where the effect is material.
- .54 The discount rate (or rates) shall be a pre-tax rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the liability. The discount rate(s) shall not reflect risks for which future cash flow estimates have been adjusted.

Future discussing were held with the AG (SA), ASB and National Treasury to obtain more clarity on how to correctly calculate/determine the discounted rate to be used the measure the liability correctly and comply with GRAP 19.

From these discussing, the following were noted:

"The finance rate of an entity is the rate that the entity pays for external borrowings. These external borrowings can, for example, be from the DBSA or any other finance institution.

The discount rate is the rate specifically associated with the risk of the cash flow being discounted. The risk of the cash flow will be influenced by various factors, such as:

- will the cash flow be internally generated; will it be obtained from external financing; and
- how long will it take to obtain the financing, etc.?

If, for example, an entity decided that the provision will be settled using internally generated cash flow then it might be better to start with the weighted average cost of capital (WACC) and adjust this for any other risk. In this example the WACC will not necessarily be the same as the finance rate.”

From the above guidelines we adopted the following methodology:

Firstly, it must be determined which funds will be used to rehabilitate the landfill sites?
We suggest to follow these steps:

- ¹ If the Municipality make use of internally generated funds (investments), the weighted average of the interest rates from the investments accounts must be determine and will be used as the discounted rate
- 2 If the Municipality does not have sufficient internal funds on investments, the discounted rate can be determined by obtaining the interest rate of a government bond yield rate as at financial year end and with a similar maturity as the provision

Secondly, the municipality may then adjust this rate for any other risks, given that enough evidence exists to support the adjustment(s)

CALCULATION

Brits

Rate applicable to discount the relevant cash flows in 2016 : **8.69%**

Recon of rate used : WACC

Yield Rate 8.14% [Government Bond Yield Rate](#)

Adjustment for risk **0.55% Note**

Discounting rate used to calculate NPV : **8.69%**

Note

It was found that the municipality did not have sufficient funds for the provision. Management then chose to use the government bond yield rate as indicated in the Yield Rate sheet

The adjustment made to the discounting rate was made due to various risks pertaining to the specific landfill site which influences the cash flows and therefore the discounting rate.

Risks that was taken into account and the estimated effect on the discounting rate :

- 1 The landfill site is fenced off
- 2 There are no weight bridge and no records are kept of vehicles entering the site.
- 3 There is no control over waste types entering the site. This may lead that possible dangerous and hazardless material be dumped in the site that may lead to possible fines
- 4 During our inspection of the site, no traces of medical waste were found.
- 5 The subject property is surrounded by farms

Quantification of the risk factors:

%

1 The landfill site was fenced off.	-	-0.10%	NOTE 1
2 No records kept	+	0.35%	NOTE 2
3 Waste types	+	0.50%	NOTE 3
4 No medical waste	-	-0.45%	NOTE 4
5 Surrounded by farms	+	0.25%	NOTE 5
		<u>0.55%</u>	

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Reconciliation of the Provision for Landfill Site Rehabilitation:

2015 Closing balance - Old Report	17,154,826.00
<i>Change in estimate - Provision</i>	(2,212,775.08)
2015 Closing balance - New Report	14,942,050.92
interest charge 2015/2016	1,298,464.23
Interest old report	961,887.00
Change in estimate	336,577.23
2016 Closing balance New Report	16,240,515.15

The current liability is calculated as the interest charge for the year following the reporting year .

Current and non-current discounted liability for landfill closure costs

Description	June 2016 (R)	June 2015 (R)
Current liability	1,298,464.23	1,194,649.21
Non-current liability	14,942,050.92	13,747,401.71